# Makerspaces in Public Libraries

Kristin “Krissa” Stewart

Library and Information Science, University of Southern California

LIM 500: Fundamentals of Library and Information Science

Dr. Christopher Stewart

December 14, 2020

## Introduction

The Makerspace movement is not truly a new one. Starting around 2006, it is technically over ten years old, stemming from decades of American Do It Yourself (DIY) culture (Clark, 2014). Yet, the general public often does not know the word, or even that such a place exists in libraries. makerspaces are broad in terms of what goes on within them and what skills are taught and explored, but they are always places of informal learning and exploration. Often, they involve a new sort of technology for people to learn how to use, such as 3D printers, or a classic form of crafting that has fallen out of style, such as knitting.

With so many years of makerspaces behind us, the question is then, how have makerspaces affected the libraries they are in? With fourteen years of data across the country, we should be able to get a good idea of the effect of makerspaces on their host libraries. Are the successful or not? What causes a Makerspace to be successful? Do they draw new patrons to the libraries they reside in? This paper seeks to answer these questions and examine why makerspaces have lasted and a consistent trend for so long by examining case studies and histories of makerspaces in public libraries.

## History

Making is a broad term for any sort of creative activity that allows one to create something for oneself, rather by technological or classical means. With that in mind, it is pretty much impossible to say that the act of making things is new. Rather, the transition from trades to modern makerspaces is slow and took place over hundreds of years. Starting with classic trades such as smithing and sewing which were performed on a small scale, making would transfer into the factories with the rise of technology in the industrial revolution, and then with the rise of the

internet, making has become a more group-based process that led to the growth of the Maker Movement (Burke & Kroski, 2018).

The Maker Movement itself began with small movement, including MakerFaires, which are basically large conventions for people to take place in many different projects and learn new skills (Clark, 2014). Still, the movement did not really move into the public sphere until the MakerBot was created. As the first actually affordable 3D printer, its introduction into the market allowed makerspaces to take off. The MakerBot only cost $2,500 dollars, compared to the $30,000-$40,000 models that were already in the market. The decreased cost allowed organizations that did not have the funds before to bring in this new technology and implement it into their programs. Many libraries were quick to buy these devices that had caught the public interest and thus, makerspaces began to appear in public libraries in 2010 (Clark, 2014).

Makerspaces appeared in academic and public libraries for the most part, special libraries already having their own unique experiences drawing their patrons in. Very quickly, many makerspaces turned towards STEM based activities within public and academic libraries (Burke & Kroski, 2018). Standing for Science, Technology, Engineering, and Math, STEM has been considered of high importance when looking at education for many years. While the question has been asked if society is over saturating STEM programs while leaving humanities and fine art studies behind, this depends on where you live and they money that is put into the schools. Yet, introducing learners to new areas of science and technology has shown to aid, or at the very least not harm their learning of other subjects. Library makerspaces are able to provide experiences with new technology that a local public school may never be able to provide, such as the ever-popular 3D Printer.

## Fayetteville Free Library

Most of the time when we think of makerspaces, we imagine them in public libraries, and many are. While public libraries often have fewer funds than their academic counterparts, they also often serve a wider group of patrons and often have to more demographic groups than a university library may.

Lauren Britton was on of the first public librarians to implement a makerspace program. While working at the Fayetteville Free Library, Britton took a class in which she was introduced to 3D printing and other technological advances that are used in makerspaces today. She was excited by the prospect of introducing making into her library culture and quickly proposed introducing a makerspace to the Fayetteville Free Library. After three tries, Britton's proposal is finally accepted, but with limited funds. Britton ended up starting with a mobile makerspace, while waiting for construction to begin on the new project. In total, her program cost around $16,000 to bring to fruition. A significant amount of that money went into changing the public perception of libraries, in hopes that the community would come to see libraries not just as places to consume, but also as places to produce. New patrons started to frequent the library and the program was able to expand (Clark, 2014).

According to Britton's research, most of the people using the makerspaces she has set up are middle aged white men, around 81%. She is hoping to be able to bridge that gap by working with public schools, but she has faced some push back, as schools seem to be worried that a makerspace will teach its students things "wrong". Other problems she ran into come mostly from internal stakeholders, who had never experienced something like a makerspace due to its newness at the time Fayetteville's makerspace began and have many questions about how it was

to be run and what different pieces of technology will be used and how new technology works (Clark, 2014).

## Richland Public Library

The Richland Public Library in Columbia, South Carolina has a makerspace in their main library branch. The main branch is location the downtown area of Columbia and serves a wide variety of patrons, including students from the nearby University of South Carolina. Their makerspace, called the "Creative Lab" was founded in July 2013 and is aimed at the teen and young adult population of the city and have proven to be fairly popular with that population (Michele Moorefield-Lang, 2014).

The Creative Lab has a wide variety of technology available to its patrons. This includes two 3D printers, a recording studio, computers with Adobe Creative Studio, art supplies, and an animation program called Ready Maker. They also offer 3D printing workshops for teenagers to learn how to use the 3D printers. Most struggles within the Creative Lab come from this technology, the Richland Library reports that the 3D printers often require maintenance and cause frustration for patrons. Yet despite this, teenagers still seem to greatly enjoy these programs and services, enough to continue coming to the library to use them (Michele Moorefield-Lang, 2014).

## Detroit Public Library

The Detroit Public Library, a staple downtown Detroit since 1921, also has a makerspace in their main branch. Called the "Hype Teen Center", this makerspace is also aimed directly at attracting teenage patrons to their library. This makerspace, opened in 2012 has one 3D printer, soldering equipment, art supplies, technology for music production, Minecraft, video game

programming, as well as material and yarn for knitting, sewing, and clothing design (Michele Moorefield-Lang, 2014). As a program, it is more diverse that the one in Columbia, offering more materials for non-technology based making as well as things that appeal more directly to teenagers, such as the inclusion of Minecraft, a popular video game that encourages players to be creative and program worlds themselves.

With a larger program they have also been able to offer far more workshops for their patrons to participate in. These include bike repair and maintenance, Arduino and robot building, computer programming, 3D printing and design, silk-screen t-shirts, and clothing design (Michele Moorefield-Lang, 2014). They have also been able to reach outside their home library system, taking part in a Maker Faire in which they created a robot petting zoo, described as "a little farm scene with Popsicle stick fences and a little barn that had a number of robots walking around" (Michele Moorefield-Lang, 2014).

## Commonalities

By looking at our three case studies, we can see a few commonalities between these three makerspaces. While this is far from a complete analysis of makerspaces across the entire country, it can provide us with an idea of what makes programs successful and what patrons may expect to find in a makerspace.

First and foremost, it should be noted that following its roots, all three programs include 3D printers. It appears that the creation of the MakerBot not only jumpstarted the marker movement within libraries, but also became a standard starting place for new programs. 3D printing is something that many people find a lot of interest in even years after its introduction to

society and we see improvements in it every year. With such a high level of interest from the population, it makes sense that libraries wish to include these in their makerspaces.

Second, two of the three public libraries discussed above aim their makerspaces specifically at teenage and young adult patrons. Attracting teenage patrons to public libraries is a issue that is regularly discussed, one of the reasons teenagers seem to avoid their public libraries is a lack of programing aimed exclusively at them. In both Columbia and Detroit, this seems to have worked, with both libraries reporting increased patron numbers and regular participation in makerspace activities.

## How to Analyze Makerspaces

Before in this paper, statements of success of makerspaces was reported without numbers to prove this. As unfortunate as this is, none of the sources cited above provide the numbers of increased patronage or regular attendance to makerspace events. This seems to be fairly standard throughout reports about makerspaces. Yet the number of makerspaces continue to grow without any much research behind them. It becomes much harder to serve and improve these programs without the numbers, so why don't we have them?

Cun argues this is because there is no widely accepted assessment system for the learning within a makerspace. In the article "An assessment matrix for library makerspaces" Cun and his coauthors propose a new way of assessing and analyzing makerspaces that they hope will be adopted to make further research easier in the future. This process is shown using a matrix and includes taking advantage of multiple traditional assessment tools to get as much information as possible. These tools include visitor logs, self-assessment, surveys, one-on-one sessions, and librarian observations (Cun et al., 2019). While it is unlikely that all libraries will apply all these

processes to one program, standardizing the assessment will help more than anything to get a clear view of the actually numerical success of makerspaces within public libraries.

## Conclusion

Looking at these three successful makerspaces, we get the impression that they are phenomenally successful. The librarians report increased patronage of their libraries, regular attendance to their events, and frequent use of their technology. The issue comes in with the fact that we cannot quantify that success into numbers. While the continued funding and expansion of these programs is a sure sign of their success, we cannot confidently say how much growth they have brought to their libraries or the level of satisfaction of patrons without these numbers.

Even with the proven longevity of the maker movement in public libraries, there needs to be a widespread way of assessing these programs. Cun's suggestion, is a good place to start. To put it simply, we need those numbers to aid new libraries in implementing new makerspace programs and improve those that are already in place. Success can still be improved upon after all and it is likely that libraries are missing clear demographics they could be reaching out to or key interests of their current patrons without the feedback and numbers to looks at.

## Reference List

Burke, J. J., & Kroski, E. (2018). *Makerspaces a practical guide for librarians*. Rowman & Littlefield.

Clark, M. (2014, June 13). *Libraries & makerspaces: A revolution?* https://tascha.uw.edu/2014/06/libraries-makerspaces-a-revolution/.

Cun, A., Abramovich, S., & Smith, J. M. (2019). An assessment matrix for library makerspaces. *Library & Information Science Research*, *41*(1), 39–47. https://doi.org/10.1016/j.lisr.2019.02.008

Michele Moorefield-Lang, H. (2014). Makers in the library: case studies of 3D printers and maker spaces in library settings. *Library Hi Tech*, *32*(4).